
REMARKS

I. Status of the Application

Claims 9-28 are pending in this application. In the April 29, 2008 office action, the Examiner:

- A. Rejected claims 9-28 under 35 U.S.C. § 103(a) as being unpatentable over US 6,778,495 to Blair in view of US 6,356,951 to Gentry, Jr.;
- B. Objected to the drawings due to informalities.

In this response, the applicant has amended the drawings and the claims as shown. Applicant respectfully traverses the rejections and requests reconsideration and allowance of the present application.

II. Objection to Drawings

The examiner objected to the previously-filed Replacement Figure 1 on the basis that the label 'Replacement Sheet' was allegedly not included. The applicant notes that the label was in fact included on the left side of the top margin of the previously-filed Figure 1 and can be seen by accessing PAIR and viewing the submission from 02/29/2008 labeled DRW. However, the correction to the reference numeral designating the offset register was omitted. This has now been rectified and the label has been made clearer in the attached replacement Figure 1.

III. Claim Rejections – 35 USC 103

Claims 9-23 were rejected as being obvious over Blair in view of Gentry. For the reasons discussed below, we submit that claims 9-23 are not obvious over Blair in view of Grant.

A. Claim 9

Claim 9 has been amended to more distinctly claim the invention. In particular, claim 9 has been amended to recite that the parsing unit comprises: a scanning section configured to identify structural features of the packets using the section identity information, the structural features including the location of the start of one or more of layer 2 and layer 3 data in the packets; a first parser configured to extract data using user-programmable offset information, the user-programmable offset information including an indication of whether data is to be extracted from the layer 2 or layer 3 data, and an indication of the location of the data to be extracted relative to the location of the start of the layer 2 or layer 3 data; and a second parser configured to extract data from the packets in locations defined by the identified structural features of the packets and predetermined offset information..

Claim 9 is patentable over Blair in view of Gentry for the following reasons:

1. Improper combination of Blair and Gentry

The examiner combined Blair and Gentry on the basis that it would allegedly be obvious to modify Blair's packet decoder to include Gentry's header parser, and that this would result in the claimed invention. We respectfully disagree.

Blair discloses a packet decoder that receives two different types of traffic: multilink protocol (MLP) fragments of non-time-sensitive packets and point to point protocol (PPP) packets of time-sensitive packets interleaved between MLP fragments (column 10 lines 30-39). The MLP fragments include sequence headers (SH) relating to the packet from which it was fragmented, while the PPP packets do not include such a header since they are not fragmented (column 6 lines 13-46, column 7 lines 20-28). The SH of MLP fragments contains the protocol identifier 0x00-0x3d (column 6 lines 37-39). On receiving incoming fragments and packets, Blair sends the fragments and packets to a decoder to de-interleave the two types of traffic. Specifically, Blair distinguishes MLP fragments from PPP packets by detecting the protocol identifier above (i.e. if the protocol identifier is found, the data is a MLP fragment; if not, it is a PPP packet) (column 10 lines 35-39). That is *all* that the decoder does. Once the type of traffic is identified, they are directed to their respective branches for de-encapsulation and re-assembly (for MLP fragments) before being routed out of Blair's receiver for relaying to the next destination, as clearly illustrated in Figure 4 of Blair.

Gentry discloses specific processes for parsing a packet to determine the protocol of a packet. In summary, Gentry does the following:

- a. receive an entire packet and store it in queue (column 16 lines 66-67)
- b. copy the packet's header into a header memory (column 17 lines 9-10)
- c. parse the copied header portion on the basis that the header portion begins with the layer 2 protocol header (column 17 lines 21-24)

It should be immediately apparent from the above that Blair and Gentry are incompatible. For instance, Blair carries out its decoding on *fragments of a packet as they are*

~~received, while Gentry requires a whole packet to be received before carrying out any parsing.~~

While Blair does receive whole PPP packets, no parsing is carried out on these packets since they are time-sensitive packets that are immediately recognized as such, thus rendering any further parsing redundant and detrimental to the time-sensitive nature of the packets.

Specifically, it would be redundant in Blair to carry out parsing of whole packets to determine their protocol since Blair already proposes a simpler approach to distinguish different protocols (i.e. by detecting if there is the protocol identifier 0x00-0x3d in fragments of packets received; if yes, the protocol is MLP; if not, the protocol is PPP). This simple approach is essential in Blair as it handles time-sensitive PPP packets. If the received data in Blair were subjected to Gentry's parsing method, all of the received data would be inevitably delayed due to Gentry's buffering of the data followed by an in-detailed parsing method. Such delays would render Blair's invention completely unsuitable for its purpose.

The applicant also submits that Gentry's parsing process would not be workable in Blair's packet decoder since the SH of the MLP fragments is not a full packet header. Specifically, Gentry's increment of pointers to locate respective header locations (which operates on the assumption that it is processing a full packet header) would simply result in random data being retrieved from the SH of the MLP fragments. The applicant anticipates the contention that the MLP fragments are collected and reassembled by Blair (thus producing whole packets) and so Gentry's header parsing on these reassembled packets would produce the results envisioned by Gentry. This contention, however, is not relevant to the present invention since the present invention carries out parsing in a section-by-section manner, not on a whole packet after it is buffered/reassembled.

The above deficiencies are indicative that the references have been put together in an unworkable combination, and that the rejection is based on impermissible hindsight. The combination of Blair and Gentry is therefore improper and would not be made by a skilled person.

2. Combination fails to disclose all claimed features

Even if, assuming for argument's sake, a skilled person does combine the teachings of Blair and Gentry, the combination is deficient as it fails to disclose at least the following features as claimed in independent claim 9 (similar features are present in independent claim 19):

- (a) 'a scanning section configured to identify structural features of the packets using the section identity information, the structural features including the location of the start of one or more of layer 2 and layer 3 data in the packets'

As noted earlier, Blair only checks for the presence of the protocol identifier 0x00-0x3d in the SH of MLP fragments. In Gentry, the parser receives a header that already begins with layer 2 data (column 17 lines 21-24), allowing the layer 3 data to be determined by advancing a pointer by a predetermined amount (column 18 lines 38-40). Neither reference therefore discloses or suggests identification of the location of the start of one or more of layer 2 and layer 3 data *using section identity information*.

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- (b) 'a first parser configured to extract data using user-programmable offset information, the user-programmable offset information including an indication of whether data is to be extracted from the layer 2 or layer 3 data, and an indication of the location of the data to be extracted relative to the location of the start of the layer 2 or layer 3 data'

Blair provides no relevant teaching or suggestion in this regard. Gentry, while disclosing the use of a parser, provides no disclosure or suggestion of offset information that includes an indication of whether data is to be extracted from the layer 2 or layer 3 data, and an indication of the location of the data to be extracted relative to the location of the start of the layer 2 and layer 3 data. The examiner's reference to Gentry's completion descriptor (column 57 lines 25-40) is not relevant in this regard as the descriptor's offset merely indicates how far into a buffer the packet is stored. The offset does not include an indicator of whether data is to be extracted from the layer 2 or layer 3 data, nor is there any indicator of the location of the data to be extracted relative to the location of the start of the layer 2 and layer 3 data. Moreover, the offset of Gentry is automatically set based on the location of the packet in the buffer. Clearly it is not a user-programmable offset.

- (c) 'a second parser configured to extract data from the packets in locations defined by the identified structural features of the packets and predetermined offset information'

Again, Blair provides no relevant disclosure or suggestion in this regard. Gentry only discloses the use of a *single* parser (illustrated as parser 304 in Figure 3). There is no *second* parser. We respectfully disagree with the examiner's observation in point 12 of the office action, where the examiner equated Gentry's identification of layer 2 data to the second parser, and Gentry's identification of a TCP header to the first parser. Gentry's operation is conventional in that only one parser is used to iteratively carry out multiple parsing operations, one at a time. This is clear from Gentry's description and the provision of its single parser 304. The present invention's use of two parsers allows the parsers to carry out different operations at the same time or at least partly concurrently.

Accordingly, because neither Blair nor Gentry, either alone or in combination, teaches shows or suggests each and every limitation of claim 9, a prima facie case of obviousness with respect to claim 9 has not been established. Therefore, it is respectfully submitted that the rejection of claim 9, as amended, over the prior art should be withdrawn.

B. Claim 19

Claim 19 has been amended in a manner similar to claim 9. In particular, claim 19 has been amended to recite:

identifying structural features of the packets using the section identity information, the structural features including the location of the start of one or more of layer 2 and layer 3 data in the packets;

extracting, using a first parser, data from the packets based on user-programmable offset information, the user-programmable offset information including an indication of whether data is to be extracted from the layer 2 or layer 3 data, and an indication of the location of the data to be extracted relative to the location of the start of the layer 2 or layer 3 data; and

extracting, using a second parser, data from the packets in locations defined by the identified structural features of the packets and predetermined offset information.

Accordingly, claim 19, as amended, includes limitations similar to those in amended claim 9. Therefore, the arguments presented above for the patentability of claim 9 are applicable to amended claim 19. For at least the reasons given above for claim 9, it is respectfully submitted that the rejection of claim 19 over the prior art should be withdrawn as well.

C. Claims 12 and 26-28

Claims 12 and 26-28 depend from and incorporated all of the limitations of their respective base claims 9 and 19. Accordingly, for the same reasons as given for claims 9 and 19, claims 12 and 26-28 are patentable over the prior art.

D. New Claims 29-38

New claims 29-38 have been added. New claims 29-33 are dependent from claim 9, and new claims 34-38 are dependent from claim 19. Accordingly, for at least the same reasons as given for claims 9 and 19, claims 29-38 are patentable over the prior art.

In addition, claims 29-38 include additional reasons for patentability over the prior art.

For example, claims 29-34 include limitations directed to how the parser system processes the incoming data stream, and, in particular, to the operation of the first and second parsers. The limitations of claims 29-38 are not disclosed or suggested by Blair or Gentry. Therefore, new claims 29-33 include additional reasons for patentability over the prior art.

IV. Conclusion

For all of the foregoing reasons, it is respectfully submitted the applicant has made a patentable contribution to the art. Favorable reconsideration and allowance of this application is therefore respectfully requested.

In the event applicant has inadvertently overlooked the need for an extension of time or payment of an additional fee, the applicant conditionally petitions therefore, and authorizes any fee deficiency to be charged to deposit account 13-0014.

Respectfully submitted,

/David R. Moorman/

David R. Moorman
Attorney for Applicants
Attorney Registration No. 59,323
Maginot Moore & Beck
Chase Tower
111 Monument Circle, Suite 3250
Indianapolis, Indiana 46204-5109
Telephone: (317) 638-2922